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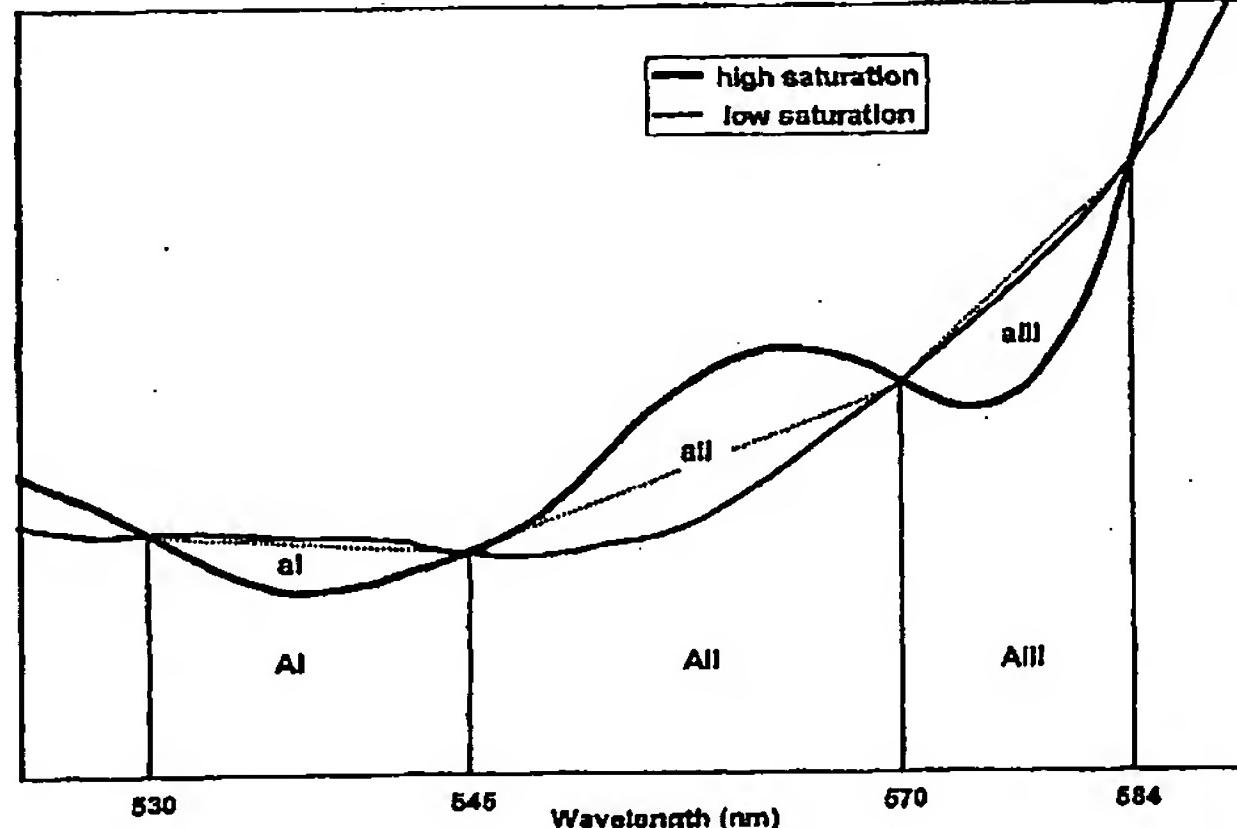
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(54) Title: A METHOD FOR EVALUATING RELATIVE OXYGEN SATURATION IN BODY TISSUES



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(57) Abstract: A new method was discovered to analyze continuous spectral curves to determine relative hemoglobin oxygen saturation, using spectral curves collected from a continuous range of wavelengths from about 530 nm to about 584 nm, including spectra from transmitted or reflected light. Using isosbestic points and curve areas, a relative saturation index was calculated. With this method, noninvasive, *in vivo* measurement of relative oxygen saturation was made using light reflected from blood vessels in the eye and to map and measure relative changes in hemoglobin oxygen saturation in primate retinal vessels and optic nerve head in response to controlled changes in inspired oxygen and intraocular pressure (IOP). This method could also measure oxygen saturation from other blood vessels that reflect light sufficient to give a clear spectra from the blood hemoglobin. Changes in blood oxygen saturation can be monitored with this method for early detection of disease.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette..

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/09185

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 6/00

US CL : 600/476

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 600/476

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | US 5,353,790 A (JACQUES et al) 11 October 1994 (11.10.1994), entire document. | 1-13 |
| A | US 5,355,880 A (THOMAS et al) 18 October 1994 (18.10.1994), entire document. | 1-13 |
| A | US 5,553,615 A (CARIM et al) 10 September 1996 (10.09.1996), entire document. | 1-13 |
| A | US 5,983,120 A (GRONER et al) 9 November 1999 (09.11.1999), entire document. | 1-13 |

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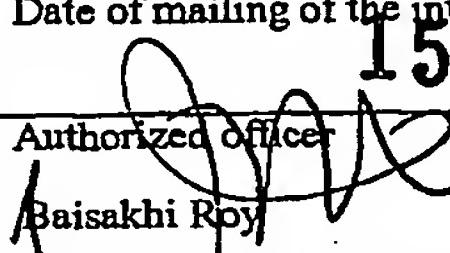
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